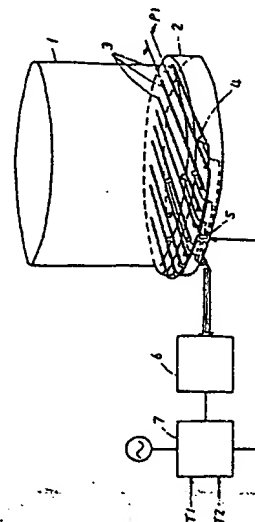


(54) TEMPERATURE CONTROL DEVICE FOR LOW TEMPERATURE TANK

(11) 6-109199 (A) (43) 19.4.1994 (19) JP
 (21) Appl. No. 4-258727 (22) 29.9.1992
 (71) OOITA EKIKA GAS KYODO BICHIKU K.K.(2)
 (72) KEISAKU HAMADA(2)
 (51) Int. Cl⁷. F17C13/10

PURPOSE: To realize precise temperature control by spreadly providing a heating heater on the whole surface of the bottom basic section of a low temperature tank, providing the basic section with a plurality of temperature sensors, and starting to turn on electricity to the heater in the case where the minimum value in the output of the temperature sensor becomes below set temperature.

CONSTITUTION: A low temperature tank 1 to store liquid such as propane is covered by a cold insulating layer on its outer periphery, and installed on the ground through a basic section 2. In this case, the bottom basic section of the low temperature tank 1 is constructed of concrete, and a heating heater cable 3 is spreadly provided over its whole surface at fixed pitches P1. In addition, a plurality of temperature sensors 4 are installed at required positions on the bottom basic section 2 of the low temperature tank 1, and a temperature signal showing the lowest temperature of output signals from the temperature sensors 4 is selected by the lowest temperature signal selecting means 6. When the selected temperature signal is smaller than set temperature T1, a heating heater control means 7 turns on electricity to the heating heater cable 3, and when the selected temperature signal is set temperature T2 ($>T1$), the above means 7 turns off electricity.

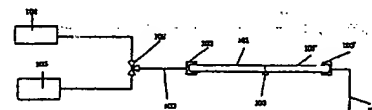
**(54) VERY HIGH PURITY FLUID SUPPLY PIPING SYSTEM AND ITS EXECUTING METHOD**

64114 106

(11) 6-109200 (A) (43) 19.4.1994 (19) JP
 (21) Appl. No. 3-331351 (22) 20.11.1991
 (71) TADAHIRO OMI (72) TADAHIRO OMI(1)
 (51) Int. Cl⁷. F17D1/04, H01L21/205

PURPOSE: To prevent the contamination of a semiconductor device or the like by welding a member to be welded with inert gas flowing through the member to be welded, and after welding, flowing extremely pure water through the welded member to washingly remove metallic fume adhering during welding.

CONSTITUTION: In the case of the weldedly joining of pipes 101, 101' made of electrolytically ground stainless steel or the above stainless steel having a passivation-treated surface, a gas supply source 104 and an extremely pure water supply source 105 are connected to one end of the pipe 101 on one side through a joint 103 and a three-way valve 102. First the pipes 101, 101' are weldedly joined by a usual method as inert gas is supplied from the gas supply source 104 into the pipe. Next the three-way valve 102 is changed over to make the extremely pure water being about 20° to 100°C flow through piping for about 10 to 4 hours and discharge outside a piping system through a joint 3. After the inside of the pipe is washed by the flowing through of the extremely pure water, and impurities such as metallic fume occurring during welding are completely removed, the inert gas is led into the pipe again to dry the inside of the pipe.

**(54) PROTECTING DEVICE FOR FLUIDIZED BED BOILER**

(11) 6-109201 (A) (43) 19.4.1994 (19) JP
 (21) Appl. No. 4-258065 (22) 28.9.1992
 (71) MITSUBISHI HEAVY IND LTD (72) MASASHI MITOMI
 (51) Int. Cl⁷. F22B1/02, F22B35/00

PURPOSE: To prevent overheat of a superheater and a reheater disposed in a fluidized bed at the time of emergency shutdown of a fluidized bed boiler.

CONSTITUTION: Outlet steam from a superheater 2 is conducted to a reheater 3 through a communicating pipe 6, and outlet steam from the reheater 3 is introduced into a desuperheater 8 via a control valve 7 to be cooled. Steam thus cooled is returned to the superheater 2 via a steam drum 1 of a fluidized bed boiler by a blower 11. In this manner, a closed loop is formed to permit cooled steam to continuously flow to the superheater 2 and the reheater 3, thereby preventing overheat of these components.

